

Notice of Allowability

Application No.

10/620,629

Examiner

Kevin Verbrugge

Applicant(s)

JAMIL ET AL.

Art Unit

2188

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to application filed 7/15/03.
2. ☒ The allowed claim(s) is/are 1-20.
3. ☒ The drawings filed on 15 July 2003 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

Reasons for Allowance

The following is an examiner's statement of reasons for allowance:

The closest prior art of record is U.S. Patent 5,524,212 to Somani et al., hereinafter simply Somani. Somani discloses a multiprocessor system with write generate method for updating a cache. Figs. 16-18 are particularly relevant. In Fig. 16, Somani shows multiple processors 126a-d and a shared storage as cache 137. Although apparently inadvertently omitted in Fig. 16, it is clear from Fig. 17 and column 18, lines 66-67 that a connection exists between cache 137 and bus 138, coupling the cache 137 to the processors.

Cache 137 can apparently be shared by the processors because it is taught at column 19, lines 3-4, that one of the adaptable cache modes includes "cache shared."

Cache 137 includes the claimed storage portion for a status including an indication of clean or dirty as the dirty bit shown in Fig. 18.

However, it appears, from the figures and the disclosure, that cache 137 does not store data in an exclusive state as claimed. Nothing in Fig. 18 suggests that cache 137 can store data in an exclusive state since the only status bits are a valid bit, a dirty bit, and a label bit (explained at column 24, lines 32-63). The discussion of exclusive states of cache lines at column 21, line 17 appears to be merely a discussion comparing Somani's write generate operations to known schemes. Somani merely states that it was known in shared memory multiprocessor caches to have five states for any one line in the cache of each processor: invalid, valid, valid shared, exclusive, and exclusive

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dirty. This does not appear to be used for any shared cache in the prior art nor does it appear relevant to Somani's shared cache 137. The previous paragraph lays the groundwork for this discussion by stating "for comparison of write generate to other schemes the following terminology is used." That statement and the immediately following discussion of a single cache for a single processor make it clear that the multiprocessor system he mentions has a shared memory but does not have a shared cache, rather each processor in the multiprocessor system has its own cache (as typical in the art) and can store data in its own cache in the exclusive (clean) and exclusive dirty states. No provision is mentioned in this discussion of the prior art nor in Somani's discussion of his own invention for the claimed capability of storing an exclusive status in a shared storage. Therefore this case is passed to issue.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

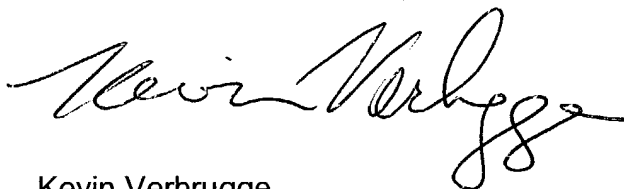
Conclusion

Any inquiry concerning a communication from the Examiner should be directed to the Examiner by phone at (703) 308-6663 before 10/28/04 and at (571) 272-4214 after 10/28/04.

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Any response to this action should be labeled appropriately (serial number, Art Unit 2188, and After-Final, Official, or Draft) and mailed to Commissioner for Patents, Washington, D.C. 20231 or faxed to (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197.

A handwritten signature in black ink, appearing to read "Kevin Verbrugge", with a stylized, cursive script.

Kevin Verbrugge
Primary Examiner
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